

## EAST Search History

## EAST Search History (Prior Art)

| Ref # | Hits  | Search Query   | DBs               | Default Operator | Plurals | Time Stamp       |
|-------|-------|--|-------------------|------------------|---------|------------------|
| S146  | 4826  | (chalcogenide GeSbTe germanium near antimony near tellurium germanium \$1antimony\$1tellurium)   | EPO; JPO; DERWENT | OR               | ON      | 2010/06/01 16:13 |
| S147  | 1085  | heat\$4 and S146   | EPO; JPO; DERWENT | OR               | ON      | 2010/06/01 16:13 |
| S148  | 0     | (set\$1rest rest\$1set) and S147   | EPO; JPO; DERWENT | OR               | ON      | 2010/06/01 16:13 |
| S149  | 2     | (set\$1reset reset\$1set) and S147   | EPO; JPO; DERWENT | OR               | ON      | 2010/06/01 16:14 |
| S150  | 994   | ( (chalcogenide)with (GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)) | US-PGPUB; USPAT   | OR               | OFF     | 2010/06/01 16:15 |
| S151  | 12034 | ( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))       | US-PGPUB; USPAT   | OR               | OFF     | 2010/06/01 16:16 |
| S152  | 9     | (set\$1reset reset\$1set) and heat\$4 near7 (dielectric insulat\$4) and S150   | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:16 |
| S153  | 19    | ((("JIN HYOCK") near2 (KIM)).INV.  | US-PGPUB; USPAT   | OR               | OFF     | 2010/06/01 16:18 |
| S154  | 91    | ((("KEE JEUNG") near2 (LEE)).INV.  | US-PGPUB; USPAT   | OR               | OFF     | 2010/06/01 16:18 |
| S155  | 42    | ((("DEOK SIN") near2 (KIL)).INV.   | US-PGPUB; USPAT   | OR               | OFF     | 2010/06/01 16:19 |
| S156  | 1     | (S153 S154 S155 hynix.as.) and S150  | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:20 |
| S157  | 36    | (S153 S154 S155 hynix.as.) and S151  | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:20 |
| S158  | 40    | (set\$1reset reset\$1set) and heat\$4 near7 (dielectric insulat\$4) and S151   | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:23 |
| S159  | 31    | S158 not S152  | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:24 |
| S160  | 7     | (@ad<"20030804"@rlad<"20030804") and S159  | US-PGPUB; USPAT   | OR               | ON      | 2010/06/01 16:25 |

|      |      |   |                 |    |     |                  |
|------|------|---|-----------------|----|-----|------------------|
| S161 | 143  | heat\$4 near7 (dielectric insulat\$4) and S150  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:38 |
| S162 | 90   | time and S161   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:38 |
| S163 | 48   | time near5 (reduc\$4 increas\$4 decreas\$4 short\$5) and S161   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:38 |
| S164 | 3    | (@ad<"20030804"@rlad<"20030804") and S163   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:39 |
| S165 | 1169 | heat\$4 near7 (dielectric insulat\$4) and S151  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:43 |
| S166 | 516  | time near5 (reduc\$4 increas\$4 decreas\$4 short\$5) and S165   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:44 |
| S167 | 256  | (@ad<"20030804"@rlad<"20030804") and S166   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:44 |
| S168 | 1676 | ( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))with (dop\$5 species) | US-PGPUB; USPAT | OR | OFF | 2010/06/01 16:45 |
| S169 | 523  | time near5 (reduc\$4 increas\$4 decreas\$4 short\$5) and S168   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:45 |
| S170 | 276  | (@ad<"20030804"@rlad<"20030804") and S169   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:45 |
| S171 | 26   | heat\$4 near7 (dielectric insulat\$4) and S170  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 16:46 |
| S172 | 298  | "5933365"   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 20:01 |
| S173 | 186  | (@ad<"20030804"@rlad<"20030804") and S172   | US-PGPUB; USPAT | OR | ON  | 2010/06/01 20:02 |
| S174 | 123  | (ti titanium) and S173  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 20:02 |
| S175 | 6    | (ti titanium) same (nitrogen) and S173  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 20:02 |
| S176 | 109  | ( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))and S174              | US-PGPUB; USPAT | OR | OFF | 2010/06/01 20:03 |
| S177 | 39   | (impurit\$5 dop\$5) near21(ti titanium) and S173  | US-PGPUB; USPAT | OR | ON  | 2010/06/01 20:05 |

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|------|------|--|---|----|-----|---------------------|
| S178 | 30   | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))and S177  | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>20:06 |
| S179 | 1742 | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))same (ti titanium)                                    | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>20:09 |
| S180 | 326  | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))same (impurit \$5 dop\$5 species) near21(ti titanium) | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>20:10 |
| S181 | 97   | (@ad<"20030804"<br>@riad<"20030804") and S180  | US-PGPUB;<br>USPAT  | OR | ON  | 2010/06/01<br>20:10 |
| S182 | 2365 | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)).ti.  | US-PGPUB;<br>USPAT; USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/06/01<br>21:16 |
| S183 | 63   | (ti titanium) same (n nitrogen) and S182   | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>21:17 |
| S184 | 25   | (dop\$4 species element\$2) near21(ti titanium) same (n nitrogen) and S182   | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>21:21 |
| S185 | 2    | (ti titanium) same (nitrogen) and S182   | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>21:45 |
| S186 | 7743 | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)).ab,clm.  | US-PGPUB;<br>USPAT; USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | OFF | 2010/06/01<br>21:49 |
| S187 | 3599 | (( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)).ab,clm.  | US-PGPUB;<br>USPAT; USOCR;<br>FPRS; IBM_TDB                             | OR | OFF | 2010/06/01<br>21:49 |
| S188 | 0    | (dop\$4 species element\$2) near21(group\$iii and group \$1VI) and S182  | US-PGPUB;<br>USPAT  | OR | OFF | 2010/06/01<br>21:51 |

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|------|------|--|--|----|-----|------------------|
| S189 | 13   | (dop\$4 species element\$2) near21(group\$iii and group \$1VI)   | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 21:51 |
| S190 | 1    | ( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))and S189   | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 21:53 |
| S191 | 307  | ((dop\$4 species dop\$4) near21( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))).clm.              | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 21:58 |
| S192 | 4704 | (dop\$4 species dop\$4) near21((group\$iii al b ti boron titanium aluminum)and (nitrogen as bi sn bismuth arsen\$4 tin group\$1VI)).clm.   | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:00 |
| S193 | 29   | S191 and S192  | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:01 |
| S194 | 12   | ("20030152867"   "20030209746"   "20030214857"   "20040234895"   "20050202200"   "20060193231"   "4710899"   "5177567"   "5581539"   "6437383"   "6969633"   "7119353").PN.                          | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:09 |
| S195 | 1    | (source) near21(ti titanium) same (n nitrogen) and S182  | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:23 |
| S196 | 7    | ("20070054475"   "20080108174"   "20080265236"   "20080272355"   "20080308785"   "5662819"   "7569909").PN.  | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:27 |
| S197 | 26   | ( (chalcogenide GeSbTe "Ge.sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))and (source) near21(ti titanium) same (n nitrogen) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2010/06/01 22:31 |
| S198 | 153  | "6437383"  | USPAT  | OR | OFF | 2010/06/01 22:46 |
| S199 | 17   | S198 and (ti titanium) same (n nitrogen)   | US-PGPUB; USPAT  | OR | OFF | 2010/06/01 22:48 |

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|------|-----|---|-------------------|----|-----|------------------|
| S200 | 3   | (dop\$4 species dop\$4 source) near21((titanium)and (nitrogen n))and S198   | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 22:51 |
| S201 | 402 | ((dop\$4 species dop\$4 source) near21((titanium)and (nitrogen n))).ab,clm.   | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 22:52 |
| S202 | 14  | ( (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium))and S201   | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 22:52 |
| S203 | 45  | (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)near21 ((dop\$4 species dop\$4 source) near21(titanium))  | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 23:01 |
| S204 | 187 | (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)near21 ((dop\$4 species dop\$4 source) near21(titanium ti))   | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 23:01 |
| S205 | 556 | (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)near21 ((dop\$4 species dop\$4 source) near21(nitrogen n))  | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 23:02 |
| S206 | 104 | S204 and S205   | US-PGPUB; USPAT   | OR | OFF | 2010/06/01 23:02 |
| S207 | 6   | (@ad< "20030804" @rlad< "20030804") and S206  | US-PGPUB; USPAT   | OR | ON  | 2010/06/01 23:03 |
| S208 | 4   | (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)near21 ((dop\$4 species dop\$4 source) near21(nitrogen n))and (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium)near21 ((dop\$4 | EPO; JPO; DERWENT | OR | OFF | 2010/06/01 23:05 |

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|------|-----|--|----------------------|----|-----|---------------------|
|      |     | species dop\$4 source)<br>near21(titanium ti))   |                      |    |     |                     |
| S209 | 2   | (phase adj change)near21<br>((dop\$4 species dop\$4<br>source) near21(nitrogen n))<br>and (phase adj change)<br>near21 ((dop\$4 species dop<br>\$4 source) near21(titanium<br>ti))   | EPO; JPO;<br>DERWENT | OR | OFF | 2010/06/01<br>23:10 |
| S210 | 16  | (phase adj change)and((dop<br>\$4 species dop\$4 source)<br>near21(nitrogen n))and ((dop<br>\$4 species dop\$4 source)<br>near21(titanium ti))   | EPO; JPO;<br>DERWENT | OR | OFF | 2010/06/01<br>23:11 |
| S211 | 0   | (phase adj change)and((dop<br>\$4 species dop\$4 source)<br>near21(group\$1v))and ((dop<br>\$4 species dop\$4 source)<br>near21(group\$1iii))  | EPO; JPO;<br>DERWENT | OR | OFF | 2010/06/01<br>23:15 |
| S212 | 0   | (phase adj change)near21<br>((dop\$4 species dop\$4<br>source) near21(group\$1v))<br>and (phase adj change)<br>near21((dop\$4 species dop<br>\$4 source) near21(group<br>\$1iii))  | US-PGPUB;<br>USPAT   | OR | OFF | 2010/06/01<br>23:16 |
| S213 | 11  | (phase adj change)with((dop<br>\$4 species dop\$4 source)<br>near21(nitrogen n))and<br>(phase adj change)with((dop<br>\$4 species dop\$4 source)<br>near21(titanium ti))   | US-PGPUB;<br>USPAT   | OR | OFF | 2010/06/01<br>23:17 |
| S214 | 10  | ("20030152867"  <br>"20030209746"  <br>"20030214857"  <br>"20040234895"  <br>"20050202200"  <br>"20060193231"   "4710899"<br>"5177567"   "5581539"  <br>"6437383"   "6969633"  <br>"7119353").PN. and(heat\$5)<br>near21 (crystal\$6<br>amorphous cooling) | US-PGPUB;<br>USPAT   | OR | OFF | 2010/06/02<br>10:33 |
| S215 | 90  | ((STEPHEN) near2<br>(HUDGENS)).INV.  | US-PGPUB;<br>USPAT   | OR | OFF | 2010/06/02<br>10:54 |
| S216 | 459 | ((TYLER) near2 (LOWREY)).<br>INV.  | US-PGPUB;<br>USPAT   | OR | OFF | 2010/06/02<br>10:54 |
| S217 | 481 | 257/E31.026 257/E31.027 <br>257/E31.029.ccls.  | US-PGPUB;<br>USPAT   | OR | ON  | 2010/06/02<br>11:58 |
| S218 | 0   | diffus\$4 near3 (ion\$2 atom<br>\$2)near4 chalco\$6 near5<br>heat\$4   | EPO; JPO;<br>DERWENT | OR | ON  | 2010/06/02<br>12:46 |

|      |    |   |                   |    |     |                  |
|------|----|---|-------------------|----|-----|------------------|
| S219 | 15 | diffus\$4 near3 (ion\$2 atom \$2)near4 chalco\$6  | EPO; JPO; DERWENT | OR | ON  | 2010/06/02 12:46 |
| S220 | 12 | ("20030152867"   "20030209746"   "20030214857"   "20040234895"   "20050202200"   "20060193231"   "4710899"   "5177567"   "5581539"   "6437383"   "6969633"   "7119353").PN. | US-PGPUB; USPAT   | OR | OFF | 2010/06/02 12:54 |
| S221 | 7  | "3656029" and dop\$4  | US-PGPUB; USPAT   | OR | OFF | 2010/06/02 12:57 |

### EAST Search History (I nterference)

| Ref # | Hits    | Search Query   | DBs                   | Default Operator | Plurals | Time Stamp       |
|-------|---------|--|-----------------------|------------------|---------|------------------|
| S222  | 516     | ((TYLER) near2 (LOWREY)). INV. ((STEPHEN) near2 (HUDGENS)).INV.  | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 10:54 |
| S223  | 1       | heat\$4 near5 (penetrat\$4 exten\$4) near11 (dielectric insulat\$4 ild oxide) and S222   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 10:56 |
| S224  | 12347   | (chalcogenide GeSbTe "Ge. sub."\$4 near "Sb.sub."\$4 near "Te.sub."\$3 germanium near antimony near tellurium germanium\$1antimony \$1tellurium) | US-PGPUB; USPAT; UPAD | OR               | OFF     | 2010/06/02 10:57 |
| S225  | 82      | heat\$4 near5 (penetrat\$4 exten\$4) near11 (dielectric insulat\$4 ild oxide) and S224   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 10:57 |
| S226  | 27      | (@ad<"20030804" @rlad<"20030804") and S225   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 11:26 |
| S227  | 0       | (chalcogenide) with ("Ge. sub."\$4 near5 "Sb.sub."\$4 near5 "Te.sub."\$3 near5 "ti. sub."\$4)  | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 11:38 |
| S228  | 0       | (chalcogenide) with ("Ge. sub."\$4 near5 "Sb.sub."\$4 near5 "Te.sub."\$3 near5 "n. sub."\$4)   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 11:39 |
| S229  | 172     | ((chalcogenide) with ("Ge. sub."\$4 near5 "Sb.sub."\$4 near5 "Te.sub."\$3))  | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 11:39 |
| S230  | 1944811 | (speed time) near5 (reduc\$4 increas\$4 decreas\$4 short\$5)   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2010/06/02 11:40 |

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|------|--------|--|-----------------------------|----|----|---------------------|
| S231 | 845867 | (size grain) near5 (reduc\$4 increas\$4 decreas\$4 short\$5)                       | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:41 |
| S232 | 52     | S229 and S230  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:41 |
| S233 | 9      | S231 and S232  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:41 |
| S234 | 854    | (doped dopant doping) near2 (chalco\$6)  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:48 |
| S235 | 284    | S234 and S230  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:48 |
| S236 | 122    | S231 and S235  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:49 |
| S237 | 63     | (@ad<"20030804"<br>@rlad<"20030804") and<br>S236                                   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:49 |
| S238 | 0      | (ti\$1doped ti near dopant ti<br>near doping) near2(chalco\$6)                     | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:51 |
| S239 | 2      | (n\$1doped n near dopant n<br>near doping) near2(chalco\$6)                        | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:51 |
| S240 | 143    | ((doped dopant doping) near2<br>(chalco\$6)) same (transition<br>\$4 adj metal\$2) | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:52 |
| S241 | 49     | S240 and S230  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:53 |
| S242 | 17     | (@ad<"20030804"<br>@rlad<"20030804") and<br>S241                                   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:53 |
| S243 | 485    | 257/E31.026 257/E31.027 <br>257/E31.029.ccls.                                      | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>11:58 |
| S244 | 1551   | 257/3-5 438/900.ccls.  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:05 |
| S245 | 42     | S243 and S244  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:05 |
| S246 | 10     | (@ad<"20030804"<br>@rlad<"20030804") and<br>S245                                   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:05 |
| S247 | 195    | "5933365" and (ti titanium<br>transitional)  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:13 |



|      |     |  |                             |    |    |                     |
|------|-----|--|-----------------------------|----|----|---------------------|
| S248 | 123 | (@ad<"20030804"<br>@rlad<"20030804") and<br>S247   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:19 |
| S249 | 1   | heat\$4 near5 (penetrat\$4<br>exten\$4) near11 (dielectric<br>insulat\$4 ild oxide) and S248 | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:27 |
| S250 | 79  | heat\$4 and S248   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:28 |
| S251 | 28  | heat\$4 near11 (set\$1reset<br>reset\$1set crystal\$6<br>amorphous)and S248                  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:29 |
| S252 | 90  | "5933365" and (ti titanium<br>transitional)same (chalco\$6<br>phase adj chang\$5)            | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:31 |
| S253 | 39  | (@ad<"20030804"<br>@rlad<"20030804") and<br>S252   | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:31 |
| S254 | 6   | heat\$4 near11 (set\$1reset<br>reset\$1set crystal\$6<br>amorphous)and S253                  | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:32 |
| S255 | 2   | diffus\$4 near3 (ti titanium<br>transitional)near4 chalco\$6                                 | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:37 |
| S256 | 5   | diffus\$4 near3 (ion\$2 atom\$2)<br>near4 chalco\$6 near5 heat\$4                            | US-PGPUB;<br>USPAT;<br>UPAD | OR | ON | 2010/06/02<br>12:39 |

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